

## ABSTRACT OF THE DISCLOSURE

A synchronous detector detects timing of scanning by an optical scanner in an image forming apparatus. The optical scanner has a light source that emits a light beam, a deflecting unit that deflects the light beam, a scanning optical element that focuses the light beam deflected by the deflecting unit onto a surface to be scanned. The synchronous detector includes a photoreceiver, and a synchronous optical element that focus the light beam deflected by the deflecting unit onto the photoreceiver. The synchronous optical element satisfies a relationship  $f_m < f_d$ , where  $f_m$  is a composite focal length of the scanning optical element in a main scanning direction, and  $f_d$  is a composite focal length of the synchronous optical element in the main scanning direction.